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What is claimed is:

1. A bacterin which comprises per dose an effective immunizing amount of two non-crossprotective inactivated
5 Borrelia burgdorferi isolates, an adjuvant in an amount effective to enhance the immunogenicity of the inactivated Borrelia burgdorferi isolates and a suitable carrier.
- 10 2. The bacterin of claim 1, wherein the effective immunizing amount of the non-crossprotective isolates of inactivated Borrelia burgdorferi is an amount from about 10^4 organisms to about 10^{10} organisms of each isolate.
- 15 3. The bacterin of claim 2, wherein the effective immunizing amount of the non-crossprotective isolates of inactivated Borrelia burgdorferi is an amount from about 10^4 organisms to about 10^9 organisms of each isolate.
- 20 4. The bacterin of claim 3, wherein the effective immunizing amount of the non-crossprotective isolates of inactivated Borrelia burgdorferi is an amount from about 10^4 organisms to about 10^8 organisms of each isolate.
- 25 5. The bacterin of claim 3 wherein the effective immunizing amount of the non-crossprotective isolates of inactivated Borrelia burgdorferi is about 10^7 organisms of each isolate.
- 30 6. The bacterin of claim 5 wherein the effective immunizing amount of the non-crossprotective isolates of inactivated Borrelia burgdorferi is about 5×10^7 organisms of each isolate.
- 35 7. The bacterin of claim 5 wherein the effective immunizing amount of the non-crossprotective isolates of inactivated Borrelia burgdorferi is about 5×10^8

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organisms of each isolate.

8. The bacterin of claim 1, wherein the non-crossprotective isolates of Borrelia burgdorferi are
5 inactivated by an agent selected from the group consisting of binary ethyleneimine, formalin or β -propiolactone.

9. The bacterin of claim 8, wherein the non-
10 crossprotective isolates of Borrelia burgdorferi are inactivated by binary ethyleneimine.

10. The bacterin of claim 1, wherein the non-crossprotective isolates of Borrelia burgdorferi are selected from seroprotective groups A, B, or C of Borrelia burgdorferi isolates.

11. The bacterin of claim 10, wherein the non-crossprotective isolates of Borrelia burgdorferi are
20 classified in seroprotective groups A and B of Borrelia burgdorferi isolates.

12. The bacterin of claim 11, wherein the seroprotective group A Borrelia burgdorferi isolate is the S-1-10, 297
25 or B31 isolate.

13. The bacterin of claim 12, wherein the seroprotective group A Borrelia burgdorferi isolate is the S-1-10
30 isolate.

14. The bacterin of claim 11, wherein the seroprotective group B Borrelia burgdorferi isolate is the C-1-11 isolate.

35 15. The bacterin of claim 1, wherein the adjuvant is selected from the group consisting of aluminum hydroxide, saponin, aluminum phosphate, carbopol, lipopolysaccharide

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and derivatives of lipopolysaccharide.

16. The bacterin of claim 15, wherein the adjuvant is aluminum hydroxide.

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17. The bacterin of claim 16, wherein the effective amount of the adjuvant is an amount from about 1.0% by volume to about 15% by volume.

10 18. The bacterin of claim 1, wherein the effective amount of the aluminum hydroxide adjuvant is an amount from about 5% by volume to about 10% by volume.

15 19. The bacterin of claim 18, wherein the effective amount of the adjuvant is about 7.5% by volume.

20. The bacterin of claim 1, wherein the suitable carrier comprises an aqueous buffer and preservatives.

20 21. The bacterin of claim 20, wherein the aqueous buffer is physiological saline.

22. The bacterin of claim 20, wherein the preservatives comprise gentamicin and nystatin.

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23. The bacterin of claim 1, further comprising an effective immunizing amount of a third non-crossprotective isolate of inactivated Borrelia burgdorferi.

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24. A method of immunizing an animal against infection by Borrelia burgdorferi which comprises administering to the animal a dose of the bacterin of claim 1.

35 25. The method of claim 24, wherein the animal is a mammal.

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26. The method of claim 25, wherein the mammal is a human.

27. The method of claim 25, wherein the mammal is a dog.

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28. The method of claim 26, wherein the dog is at least about six weeks old.

29. The method of claim 24, further comprising
10 administering to the animal an additional dose of vaccine at a suitable interval of time after administration of the preceding dose.

30. The method of claim 29, wherein the appropriate
15 interval of time is from about two weeks to about five weeks.

31. The method of claim 24, wherein the administration
is by intramuscular injection.

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32. The method of claim 24, wherein the administration
is by subcutaneous injection.

33. A bacterin which comprises per dose an effective
25 immunizing amount of an antigenic subunit derived from a first Borrelia burgdorferi isolate, an effective immunizing amount of an antigenic subunit derived from a second, non-crossprotective Borrelia burgdorferi isolate, an adjuvant in an amount effective to enhance the
30 immunogenicity of the antigenic subunits and a suitable carrier.

34. The bacterin of claim 33, wherein the effective
immunizing amount of the antigenic subunits derived from
35 each of the non-crossprotective Borrelia burgdorferi isolates is an amount from about ten micrograms to about 10,000 micrograms.

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35. The bacterin of claim 33, further comprising an effective immunizing amount of an antigenic subunit of a third Borrelia burgdorferi isolate.

5 36. A bacterin which comprises per dose an effective immunizing amount of two non-crossprotective isolates of inactivated Borrelia burgdorferi and one or more antigenic subunits from the non-crossprotective isolates, an adjuvant in an amount effective to enhance the
10 immunogenicity of the inactivated Borrelia burgdorferi and antigenic subunits and a suitable carrier.

37. The use of a bacterin which comprises an effective immunizing amount of at least two non-crossprotective
15 isolates of inactivated Borrelia burgdorferi, an adjuvant in an amount effective to enhance the immunogenicity of the inactivated Borrelia burgdorferi and a suitable carrier for the immunization of animals against infection by Borrelia burgdorferi.

20 38. The use of claim 37, wherein the effective immunizing amount of the non-crossprotective isolates of inactivated Borrelia burgdorferi is an amount from about 10^4 organisms to about 10^{10} organisms of each isolate.

25 39. The use of claim 37, wherein the effective immunizing amount of the non-crossprotective isolates of inactivated Borrelia burgdorferi is an amount from about 10^4 organisms to about 10^9 organisms of each isolate.

30 40. The use of claim 37, wherein the effective immunizing amount of the non-crossprotective isolates of inactivated Borrelia burgdorferi is an amount from about 10^4 organisms to about 10^8 organisms of each isolate.

35 41. The use of claim 37, wherein the effective immunizing amount of the non-crossprotective isolates of

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inactivated Borrelia burgdorferi is about 10^7 organisms of each isolate.

42. The use of a bacterin which comprises an effective immunizing amount of at least two non-crossprotective isolates of inactivated Borrelia burgdorferi and one or more antigenic subunits from the non-crossprotective isolates, an adjuvant in an amount effective to enhance the immunogenicity of the inactivated Borrelia burgdorferi and antigenic subunits and a suitable carrier for the immunization of animals against infection by Borrelia burgdorferi.

43. The use of claim 42, wherein the effective immunizing amount of the antigenic subunits derived from each of the non-crossprotective Borrelia burgdorferi isolates is an amount from about ten micrograms to about 10,000 micrograms.